PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(First Semester)

Branch - STATISTICS

DESCRIPTIVE STATISTICS

Time: Three Hours Maximum: 75 Marks,

SECTION-A (IQ Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** marks (1O x 1 = 10)

1 Collecting data for population study (census) is a
(i) Primary Data (ii) Secondary Data
(iii) Sample Data (iv) Private Data

2 Representing the angle values is a
(i) Bar diagram (ii) Pie diagram
(iii) Sub-divided bar diagram (iv) Cartogram

3 SUM of absolute deviations about median is
(i) Least (ii) Greatest (iii) Zero (iv) One always

4 The sum of squares of deviations is least when measured from
(i) Median (ii) Mean (iii) Mode (iv) G.M

5 A normal curve is
(i) positively skewed (ii) negatively skewed
(iii) symmetric (iv) bimodal

6 In a moderately symmetric distribution mean, median and mode are connected by
(i) Mode=2 Median - 3 Mean (ii) Mode = 3 Median - 4 Mean
(iii) Mode=3 Median - 2 Mean (iv) Mode=2 Median - 4 Mean

7 The coefficient of correlation will have positive sign when
(i) X is increasing and Y is decreasing
(ii) both X and Y are increasing
(iii) X is decreasing and Y is increasing
(iv) there is no change in X and

8 The coefficient of correlation is independent of
(i) change of scale only
(ii) change of origin only
(iii) both change of scale and origin
(iv) neither change of scale not change of origin

9 The method of least squares consist in minimizing
(i) sum of the errors (ii) sum of absolute errors
(iii) sum of squares of errors (iv) mean

10 The equation of the power curve is
(i) $y=ae^{bx}$ (ii) $y=ab^{x}$ (iii) $y=ax^{b}$ (iv) $y=a+bx$

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 7 - 3 5)

11 a Explain the chronological classification with a example.

OR

12 a Explain the properties of Standard Deviation.

OR

b Calculate the mean deviation from the mean for the following data:

Size: x 1 2	4	6	8	10	12	14	16
Frequency: f j 2	2	4	5	3	2	1	1

13 a A frequency distribution showed the following measure of location:
Mean=45, Median=48, Coefficient of Skewness=-0.4
Find the value of Standard Deviation by using the above information.

OR

b Find the coefficient of skewness, if
Difference between two quartiles = 8
Sum of two quartiles = 22
Median =10.5

14 a Explain the scatter diagram with suitable illustration.

OR

b Calculate the co-efficient of correlation from the following data by the Spearman's Rank difference method:

X:	75	88	95	70	60	80	81	50
Y:	120	134	150	115	110	140	142	100

15 a Explain the method of obtaining normal equations for second degree polynomial.

OR

b Explain the method of fitting power curve.

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Draw Ogive curve and hence find the value of median from the following data:

Marks:	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Freq:	5	15	30	40	60	40	30	15	5

17 Calculate the value of variance from the following table:

Class:	10-14	14-18	18-22	22-26	26-30	30-34	34-38	38-42	42-46	46-50	50-54	54-58
Freq:	2	4	4	8	12	16	10	8	4	6	2	4

18 Compute Karl Pearson's coefficient of skewness from the following data:

Profits:	10-20	20-30	30-40	40-50	50-60
No. of Companies:	18	20	30	22	10

19 Obtain the two regression equations from the following data.

X:	60	62	65	70	72	48	53	73	65	82
Y:	68	60	62	80	85	40	52	62	60	81

20 Fit a straight line by the method of least squares from the following data:

X:	6	2	10	4	8